



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street
San Francisco, CA 94105-3901

JUL 2 2004

Mr. Laurence K. Lau
Deputy Director for Environmental Health
Hawaii Department of Health
P.O. Box 3378
Honolulu, HI 96801-3378

Dear Mr. Lau:


Thank you for submitting Hawaii's 2004 Section 303(d) list of water quality limited water bodies. EPA has conducted a complete review of the list submittal dated June 21, 2004, a clarifying submittal dated June 30, 2004, and supporting documentation and information. Based on this review, EPA has determined that Hawaii's 2004 list of 224 water quality limited segments (WQLSs) still requiring TMDLs meets the requirements of Section 303(d) of the Clean Water Act ("CWA" or "the Act") and EPA's implementing regulations. Therefore, by this order, EPA hereby approves Hawaii's 2004 Section 303(d) list. The statutory and regulatory requirements, and a summary of EPA's review of Hawaii's compliance with each requirement, are described in the enclosure.

The Hawaii 303(d) submission includes 70 streams and 174 coastal stations. The listings were based on an assessment methodology and listing/delisting criteria described in the State submittal. Priority rankings for all listed waters are established as required by Section 303(d) and its implementing regulations. Priorities were established based on severity of pollution, uses, type and location of water body, public interest, and vulnerability to pollutant effects. About 15% of listed waters are targeted for TMDL development in the next two years, consistent with the targeting requirement of 40 CFR 130.7.

The public participation process sponsored by Hawaii Department of Health (DOH) included solicitations of public comment through newspaper advertisements and preparation of a responsiveness summary explaining how the State considered public comment in the final listing decisions.

Thank you for your efforts to develop a sound 303(d) water body list for 2004. If you have questions on any of the above information, feel free to give me a call at (415) 972-3572 or call David Smith at (415) 972-3416.

Sincerely,


Alexis Strauss
Director 2 July 2004
Water Division

Enclosure

Review of Hawaii's 2004 Section 303(d) Water Body List

*Attachment to letter from Alexis Strauss, EPA Region 9 to
Laurence K. Lau, Hawaii Dept. of Health*

Date of Transmittal Letter From State: June 21, 2004

Date of Receipt by EPA: June 21, 2004

Purpose

The purpose of this review document is to describe the rationale for EPA's approval of Hawaii's 2004 Section 303(d) water quality limited waters list. The following sections identify those key elements to be included in the list submittal based on the Clean Water Act and EPA regulations (see 40 C.F.R. §130.7). EPA reviewed the methodology used by the State in developing the 303(d) list and the State's description of the data and information it considered. EPA's review of Hawaii's 303(d) list is based on EPA's analysis of whether the State reasonably considered existing and readily available water quality-related data and information and reasonably identified waters required to be listed.

Statutory and Regulatory Background

Identification of WQLSs for Inclusion on Section 303(d) List

Section 303(d)(1) of the Act directs States to identify those waters within its jurisdiction for which effluent limitations required by Section 301(b)(1)(A) and (B) are not stringent enough to implement any applicable water quality standard, and to establish a priority ranking for such waters, taking into account the severity of the pollution and the uses to be made of such waters. The Section 303(d) listing requirement applies to waters impaired by point and/or nonpoint sources, pursuant to EPA's long-standing interpretation of Section 303(d).

EPA regulations provide that States do not need to list waters where the following controls are adequate to implement applicable standards: (1) technology-based effluent limitations required by the Act, (2) more stringent effluent limitations required by federal, State or local authority, and (3) other pollution control requirements required by State, local, or federal authority. See 40 CFR 130.7(b)(1).

Consideration of Existing and Readily Available Water Quality-Related Data and Information

In developing Section 303(d) lists, States are required to assemble and evaluate all existing and readily available water quality-related data and information, including, at a minimum, consideration of existing and readily available data and information about the following categories of waters: (1) waters identified as partially meeting or not meeting designated uses, or as threatened, in the State's most recent Section 305(b) report; (2) waters for

which dilution calculations or predictive modeling indicate nonattainment of applicable standards; (3) waters for which water quality problems have been reported by governmental agencies, members of the public, or academic institutions; and (4) waters identified as impaired or threatened in any Section 319 nonpoint assessment submitted to EPA. See 40 CFR 130.7(b)(5). In addition to these minimum categories, States are required to consider any other data and information that is existing and readily available. EPA's 1991 Guidance for Water Quality-Based Decisions describes categories of water quality-related data and information that may be existing and readily available. See Guidance for Water Quality-Based Decisions: The TMDL Process, EPA Office of Water, 1991, Appendix C ("EPA's 1991 Guidance"). While States are required to evaluate all existing and readily available water quality-related data and information, States may decide to rely or not rely on particular data or information in determining whether to list particular waters.

In addition to requiring States to assemble and evaluate all existing and readily available water quality-related data and information, EPA regulations at 40 CFR 130.7(b)(6) require States to include as part of their submissions to EPA documentation to support decisions to rely or not rely on particular data and information and decisions to list or not list waters. Such documentation needs to include, at a minimum, the following information: (1) a description of the methodology used to develop the list; (2) a description of the data and information used to identify waters; and (3) any other reasonable information requested by the Region. EPA carefully reviews any State decision not to rely upon readily available data and information in conducting listing assessments to ensure that such decisions are reasonable.

Priority Ranking

EPA regulations also codify and interpret the requirement in Section 303(d)(1)(A) of the Act that States establish a priority ranking for listed waters. The regulations at 40 CFR 130.7(b)(4) require States to prioritize waters on their Section 303(d) lists for TMDL development, and also to identify those WQLSs targeted for TMDL development in the next two years. In prioritizing and targeting waters, States must, at a minimum, take into account the severity of the pollution and the uses to be made of such waters. See Section 303(d)(1)(A). As long as these factors are taken into account, the Act provides that States establish priorities. States may consider other factors relevant to prioritizing waters for TMDL development, including immediate programmatic needs, vulnerability of particular waters as aquatic habitats, recreational, economic, and aesthetic importance of particular waters, degree of public interest and support, and State or national policies and priorities. See 57 FR 33040, 33045 (July 24, 1992), and EPA's 1991 Guidance.

Analysis of Hawaii's Submission

Identification of Waters and Consideration of Existing and Readily Available Water Quality-Related Data and Information.

EPA reviewed the State's submission, and has concluded that the State developed its Section 303(d) list in compliance with Section 303(d) of the Act and 40 CFR 130.7. EPA's review is based on its analysis of whether the State reasonably considered existing and readily available water quality-related data and information and reasonably identified waters required to be listed.

Hawaii conducted a thorough assessment of water quality conditions based on a broad search for data and information, and a set of listing/delisting criteria that is described in detail in Appendix A of the listing submission. The Hawaii assessment criteria are very similar to those applied to develop the 2002 Section 303(d) list. The State's general approach was to thoroughly assess waters for which sufficient data and information were available to do so and to continue listing waters contained on the 2002 Section 303(d) list for which insufficient data, and information were available to support an assessment of previously listed waters.

The baseline for Hawaii's 2004 303(d) list was Hawaii's 2002 Section 303(d) list. The State submitted the 2002 list in October, 2002 and EPA approved the 2002 list in December, 2002 (see administrative record for Hawaii 2002 Section 303(d) Listing Approval, on file with EPA Region 9). For the 2004 list, several pollutants included on the 2002 list for specific streams were removed, but no waters were completely delisted in 2004. All other waters and pollutants on Hawaii's 2002 list were carried over to the 2004 list because the State determined that there was insufficient data to delist them or because water quality data continue to justify the listing. EPA finds that the State's decision to continue listing previously listed waters absent sufficient new evidence that standards are being attained is a reasonable approach consistent with federal listing requirements. The 2004 list also includes listings for 11 new streams and 35 new coastal stations. The submittal describes a reasonable basis for the decision to include each of these new waters and associated pollutants on the 2004 list.

The submittal describes the basis for the decision to remove from the list several pollutants for waters that continue to be included on the list for other pollutants (see pp 49-53). The State found that available data collected by the State demonstrates that applicable water quality standards for these pollutants are now attained at these locations.

To conduct the 303(d) assessment, available data were assembled and screened using "Listing and delisting criteria for Hawaii State surface waters" developed by DOH and included as Appendix A in the submittal. Data considered were collected during a six-year window prior to the EPA-required submittal deadline, i.e. 1996-2004. A six-year window was chosen to ensure that data reviewed are both relatively recent and available in sufficient quantity (see email from Dr. June Harrigan, June 30, 2004). The listing/delisting criteria describe data quality

requirements, minimum sample sizes, limits on the age of data and sample sizes, and the amount of narrative information needed to sort data into one of three priority categories for making listing decisions. Data sets and supporting documentation were screened using these criteria and evaluated against numeric and narrative water quality criteria. Water bodies where data satisfied listing criteria and where water quality criteria were exceeded were listed. Figures 1 and 2 in the State submittal illustrate the general process for listing/delisting conventional pollutants and toxic pollutants, respectively. Figure 3 in the State submittal illustrates the process used to apply narrative water quality standards in the assessment process. The State's submittal provides a sufficiently detailed rationale supporting this use of this methodology for listing assessments. Although the State's method includes minimum sample size provisions for assessing conventional pollutants, it does provide sufficient flexibility to consider listing waters that do not meet the minimum samples sizes based on a weight of evidence approach. The State explained that except for the limited instances described on pp. 13-23 of the submittal, there were no other examples of data or information assembled during the assessment process that were excluded from the assessment based on concerns about data age, quality, or quantity (see email from June Harrigan, June 30, 2004). EPA finds that this approach is consistent with federal listing requirements.

The minimum number of samples required by DOH's listing/delisting criteria for listing toxic pollutants is three. Where these criteria were not met, DOH used a weight of evidence approach in examining individual waters and toxic pollutants. The State listed 3 streams for pesticides using this weight of evidence approach for sediment and fish tissue data. Two estuaries were listed on the basis of fish consumption advisories, which are currently in effect and based on locally collected data. EPA finds that this approach to assessing toxic pollutants is consistent with federal listing requirements.

The State's listing criteria provide that, in general, streams should be listed based on data collected from two or more sampling sites. This criterion is based on a concern that data from a single sampling station may not be representative of water quality conditions for the whole stream. Unlike many States, Hawaii has not formally segmented its relatively short fresh water streams into discrete reaches in its water quality standards. The State's technical judgement that data from a single sampling point may not be representative reflects the consideration that water quality conditions may vary substantially within fairly short distances along Hawaiian streams. The approach of generally not listing streams based solely on water column data from a single sample point is consistent with EPA's 1997 assessment guidance (p. 1-10). EPA concludes that the State's stream assessment criterion concerning single sample sites is reasonable and consistent with federal listing requirements. We note, however, that the State did conclude, based on additional lines of evidence, that some waters should be listed despite the fact that water column data were available only for a single sample site. As discussed below, this approach is appropriate because the State followed a weight of evidence approach and concluded that the sum of all available evidence and data supported a conclusion that these additional waters meet the listing requirements.

The State carefully assembled and considered existing and readily available data and information sources, including each of the sources identified in 40 CFR 130.7(b)(5), except as discussed below. The majority of data reviewed were collected by DOH's Clean Water Branch statewide water quality monitoring program and entered into STORET database. In addition, in response to a DOH statewide call for data in July 2003, several data sets were provided for the State's consideration. As described in the submittal, DOH also contacted a variety of organizations directly to solicit data (see pp. 13-14 and Appendix B), including university researchers, USGS, NOAA, USDA, US Fish and Wildlife Service, and community groups (40 CFR 130.7 (b)(5)(iii)).

Hawaii's 2002 Section 305(b) Report did not list individual waters as partially or not supporting uses; therefore, the State has sufficiently considered information in the most recent 305(b) report as required by 40 CFR 130.7(b)(5)(i). The State conducted a wide solicitation of data and information to support the 2004 Section 303(d) assessment and demonstrates in its submittal that it carefully considered all readily available data and information, including the data and information categories specified in 40 CFR 130.7(b)(5)(ii) and (iii). Hawaii's Implementation Plan for Polluted Runoff Control July 2000 lists waters impaired by nonpoint pollution and was prepared, in part, as an update to the State's Section 319 assessment. This list is based on the State's 1998 303(d) list and consists of the 18 water quality segments on that list. All of these waters are continued on Hawaii's 2004 list. Therefore, the State has sufficiently considered information on nonpoint source-impaired waters as required by 40 CFR 130.7(b)(5)(iv).

During site visits DOH's Clean Water Branch evaluates by best professional judgment whether or not waters support designated uses. These subjective evaluations are tracked in a database, but are poorly documented. It appears reasonable that the State not rely on this information for listing because in the State's judgement there is no clear or persuasive analytical methodology to support the findings and the results are therefore unreliable for listing purposes.

DOH also considered data and information beyond what is specifically listed in 40 CFR 130.7(b)(5). Other sources reviewed include stream surveys conducted by AECOS, stream biological assessments conducted by Mike Kido and DOH's Environmental Planning Office, EISs, other data for Waimanalo stream, student-collected data for Heeia Stream, and Ed Laws' data for West Maui.

EPA has reviewed Hawaii's description of the data and information it considered, its methodology for identifying waters and the State's Public Comment Responsiveness Summary. EPA concludes that the State properly assembled and evaluated all existing and readily available data and information, including data and information relating to the categories of waters specified in 40 CFR 130.7(b)(5).

Although EPA reviewed Hawaii's listing methodology as part of our review of the listing submission, EPA's approval of the State's listing decisions should not be construed as

concurrence with or approval of the listing methodology. EPA is not required to take action on the listing methodology itself under 40 CFR 130.7. While EPA considered the State's listing methodology as part of its review, our evaluation was intended to determine whether the State had identified all waters that meet federal listing requirements specified in Section 303(d) and 40 CFR 130.7. EPA assessment and listing guidance documents specifically recommend that States develop listing methodologies based on sound science principles that result in scientifically defensible listing decisions (see EPA, 1997, EPA, 2001, and EPA, 2004)

Rationale for not listing specific waters and pollutants

The State provided its rationale for not relying on one example of existing and readily available water quality-related data and information as a basis for listing waters.

1. Visual Assessments

The consultant AECOS conducted visual assessments at several streams using the NRCS Visual Assessment Protocol, which DOH considered as part of its water quality assessment (p. 19-20). Based its concerns that these assessments had very limited temporal coverage (only assessed by NRCS protocol one time in dry season) DOH asserts that this data set is not adequate to support listing/delisting. DOH will keep waters previously listed by the State on the basis of earlier 1997 visual assessment on the list until further monitoring justifies delisting or listing changes. EPA concludes that this approach represents a reasonable balance between the need to consider visual assessment results in water quality assessments and the desire to base additional listings on more reliable quantitative water quality data.

2. Biological Assessments

The basis and criteria for DOH's evaluation of biological assessments for streams is described in the listing/delisting criteria, Appendix A, and in the text of the submittal (p. 21). Biological assessments evaluate narrative criteria in HAR 11-54-04. DOH reviewed stream biological assessments by the Environmental Planning Office and concluded that the assessments did not meet the minimum listing requirements of 3 or more sampling events, including both the wet and dry seasons, and were not sufficiently representative of water conditions to support a listing assessment. This is a reasonable basis for not listing waters based on limited biological assessments given the relatively new development of biological assessments for Hawaii's streams, the limited data set, the need to account for environmental variability, and the lack of corresponding water quality data to link biological and pollutant data sets.

3. Other data sources

DOH lists 6 other data sources that were reviewed against the listing/delisting criteria. Most of these data were from waters that are already listed and for which, in many cases,

TMDLs are already underway. The TMDLs for the listed waters will provide more in depth evaluation of water quality conditions and pollutant sources.

DOH considered summary data reported in a PhD dissertation by Daniel J. Hoover (see p. 14). However, DOH did not rely upon the summary data presented because (1) the data did not include geometric mean data needed for comparison with applicable water quality standards and (2) the raw data were not available. EPA concludes that this is a valid basis for not relying upon these data in the assessment process but urges DOH to consider these data if they are provided in the future.

DOH also considered data reported concerning Kaneohe and Waimanalo Streams by Tomlinson and De Carlo. DOH did not rely upon this data based on (1) QA/QC concerns discussed in the report and (2) incompatibility of the electronic data submission format with the computer processing programs used by DOH. EPA concludes that this is a valid basis for not relying upon these data in the assessment process, but urges DOH to work with the authors to determine whether the data are reliable and can be furnished in a format useable by DOH.

8. Waters nominated by commenters

A commenter (Carl Berg) requested that the Hanalei River and estuary be listed for nutrients, turbidity, and enterococcus. The embayment was listed for turbidity. DOH concludes reasonably that nutrients and Enterococcus need not be listed at this time because the limited nutrient data provided do not support a listing at this time, and because enterococcus is not the applicable water quality standard for inland waters.

Nonpoint Source Impaired Waters

The State properly listed waters with nonpoint sources causing or expected to cause impairment, consistent with Section 303(d) and EPA guidance. Section 303(d) lists are to include all WQLSs still needing TMDLs, regardless of whether the source of the impairment is a point and/or nonpoint source. EPA's long-standing interpretation is that Section 303(d) applies to waters impacted by point and/or nonpoint sources. *In Pronsolino v. Marcus*, the District Court for the Northern District of California held that section 303(d) of the Clean Water Act (CWA) authorizes EPA to identify and establish total maximum daily loads (TMDLs) for waters impaired by nonpoint sources. *Pronsolino et al. v. Marcus et al.*, 91 F. Supp.2d 1337 (N.D.Ca. 2000), *aff'd*, *Pronsolino v. Nastri*, 291 F.3d 1123 (9th Cir. 2004). See also EPA's 1991 Guidance and National Clarifying Guidance for 1998 Section 303(d) Lists, Aug. 27, 1997.

Priority Ranking and Targeting

EPA also reviewed the State's priority ranking of listed waters for TMDL development, and concludes that the State properly took into account the severity of pollution and the uses to be made of such waters, as well as other relevant factors such as:

- the degree of public interest and support,
- immediate programmatic needs, and
- data availability.

The State's decision to consider additional priority ranking factors is reasonable because TMDL development is likely to be more effective, and perhaps more cost-effective, if it is done first for waters with a high level of public interest, or for geographically related waters.

EPA also reviewed the State's identification of WQLSs targeted for TMDL development in the next two years, and concludes that the targeted waters are appropriate for TMDL development in this time frame. The State targeted about 15% of its needed TMDLs for development over the next two years. As the State has already begun to accelerate its pace of TMDL development, Hawaii should be able to complete its remaining TMDLs within a reasonable period of time. The State is well underway with several of the TMDLs for targeted waters, and should be able to complete the monitoring and analysis work required for these TMDLs within the next two years. The State has targeted a mix of TMDLs for near-term TMDL development, including waters affected by point and nonpoint sources and a mix of simple and more complex TMDLs. EPA concludes, based on these considerations, that the State's priority ranking and targeting commitments are consistent with federal requirements.

Administrative Record Supporting This Action

In support of this decision to approve the State's listing decisions, EPA carefully reviewed the materials submitted by Hawaii with its 303(d) listing decision. The administrative record supporting EPA's decision is comprised of the materials submitted by the State, copies of Section 303(d), associated federal regulations, and EPA guidance concerning preparation of Section 303(d) lists, and this decision letter and supporting report. EPA determined that the materials provided by the State with its submittal provided sufficient documentation to support our analysis and findings that the State listing decisions meet the requirements of the Clean Water Act and associated federal regulations. We are aware that the State compiled and considered additional materials (e.g. raw data and water quality analysis reports) as part of its list development process that were not included in the materials submitted to EPA. EPA did not consider all of these additional materials as part of its review of the listing submission. It was unnecessary for EPA to consider all of the materials considered by the State in order to determine that, based on the materials submitted to EPA by the State, the State complied with the applicable federal listing requirements. Moreover, federal regulations do not require the State to submit all data and information considered as part of the listing submission.

References

The following list of documents was used directly or indirectly as a basis for EPA's review of the State's 303(d) water body list. This list is not meant to be an exhaustive list of all records reviewed, but to provide the primary documents the Region relied upon in making its

decisions to approve the State's list.

Hawaii's 2004 List Submittal with attachments, June 15, 2004.

Hawaii's Call for Data Submittals, 2003, News Release announcing the availability of the assessment criteria for review and request for data submission, July 9, 2003, and public notice of the availability of the draft 2004 list for public review, February 2004.

Hawaii's "Response to Public Comment", June 16, 2004.

Hawaii Water Quality Standards, HAR 11-54

Hawaii's 2002 Section 305(b) Report, May 30, 2002 (on file at EPA Region 9)

December 28, 1978 Federal Register Notice, *Total Maximum Daily Loads Under Clean Water Act*, finalizing EPA's identification of pollutants suitable for TMDL calculations, 43 Fed. Reg. 60662.

January 11, 1985 Federal Register Notice, *40 CFR Parts 35 and 130, Water Quality Planning and Management: Final Rule*, 50 Fed. Reg. 1774

July 24, 1992 Federal Register Notice, *40 CFR Parts 122, 123, 130*, revision of regulation, 57 Fed. Reg. 33040

August 27, 1997 memorandum from Robert H. Wayland III, Director, Office Wetlands, Oceans, and Watershed, Office of Water, EPA Headquarters, to Water Division Directors, Regions I - X, and Directors, Great Water Body Programs, and Water Quality Branch chiefs, Regions I - X, regarding "National Clarifying Guidance For 1998 State and Territory Section 303(d) Listing Decisions."

September, 1997 guidance from Office of Water, Headquarters, US EPA regarding Guidelines for Preparation of the Comprehensive State Water Quality Assessments (305(b) Reports) and Electronic Updates: Supplement, EPA-841-B-97-002B

November 19, 2001 memorandum from EPA Office of Water regarding 2002 Integrated Water Quality Monitoring and Assessment Report Guidance.

Consolidated Assessment and Listing Methodology, EPA Office of Water, July 2002

Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by the Environmental Protection Agency, EPA-260R-02-008, 2002. Office of Environmental Information, U.S. Environmental Protection Agency, Washington, DC.

Guidance for 2004 Assessment. Listing and Reporting Requirements Pursuant to Sections 303(d) and 305(b) of the Clean Water Act, TMDL -01-03 - Diane Regas, EPA Office of Wetlands, Oceans, and Estuaries, July 21, 2003.